Peerless

WATER SYSTEMS

Made in
Canada
Since
1909

The Most Dangerous
Phase of Rural
Life

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Peerless
WATER SERVICE SYSTEMS

Made in Canada since 1909 by

NATIONAL EQUIPMENT CO.
LIMITED
TORONTO

◆

DON'T BUY

- Light Weight Tanks. See pages 8-9
- Centrifugal Pumps. See pages 10-11
- Rotary Pumps. See page 11
- Air Lift Systems. See pages 11-12
- Tankless Systems. See pages 12-13

No. 1000

In the burning sun and the blasting cold
She has trod that weary trail,
But taps "Hot" and "Cold" are a comfort untold,
And now take the place of the pail.

MORE than forty years ago the principle of the Hydro-Pneumatic System of water supply was successfully tried out in the United States and was gradually improved and brought into general use until, about fifteen years ago, it reached its present state of simplicity and perfection.

While up to that time scores of thousands of Systems were in use in that country, it was almost unknown in Canada; and in 1909, after a thoroughly painstaking investigation covering the entire field of its usefulness, this Company was organized for the purpose of manufacturing an all Canadian System, and so successful did the effort prove, that, three years later, we quadrupled our plant which has again been entirely outgrown by the demand for Peerless Systems, and it may no be amiss to say here that this Company is the only one under the British flag actually manufacturing complete Water Supply Systems.

The two details that received our most earnest attention during our earlier investigations were the probable life of a properly constructed tank, and the best method of introducing additional air occasionally to replace that which had been slowly absorbed by the water, and we were unable to find a single instance of a defective tank, even when installed underground for twenty years, when it was of heavy tank quality plate with riveted joints, such as we have made ever since, and the method which we developed for introducing air involves only the turning of a tap—the pump delivers the air with the water automatically—and even this slight attention is required only every few weeks, or even months.

To those who are not fully acquainted with the exceedingly simple principles involved in the construction and operation of a Peerless Water System we think the following explanation will be of interest.

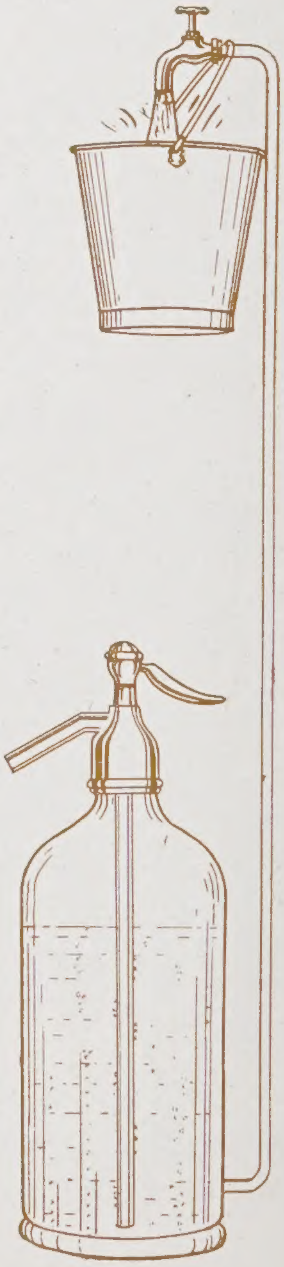
You are familiar, of course, with the Syphon Bottle used for soda water. You know that by pressing the valve, water is released with sufficient force to carry it a considerable distance.

Do you know what generates the force—what it is that pushes the water up the tube and out through the spout?

It is compressed air in the upper part of the bottle.

The water is forced into the bottle against the resistance of the contained air, thus storing power to eject the water when the time comes.

Now, imagine the Syphon with a tube let into the side and carried vertically.



It is obvious that when the tap away above the bottle at the top of the tube is turned on, the water will be discharged through it at considerable pressure.

In such a syphon, you have a miniature *Peerless Water System.*

Understanding this principle, the Peerless Water System is simplicity itself, and it is easy to see how, from a tank in a cellar, clear, sparkling water may be had on tap in any room in your house.

The air-tight tank in your cellar is your Syphon Bottle. Water is pumped into it against the contained air, direct from a stream, well, spring, etc., and the mere pumping of the water into the tank creates sufficient force by compressing the air, to carry it to the top of your building without difficulty, or through a line of pipe of any length, to your barns, green houses, etc., etc.

It is because of its simplicity that your *Peerless Water System* gives unfailing service.

The pump may be operated by hand, gasoline engine, or electricity, according to your conveniences. The hand pump places the Peerless Water System within the reach of the smallest dwelling, and requires but little attention to supply the daily requirements. The power pump will economically and efficiently supply any requirements from those of the smallest house to those of a town with a population of ten thousand.

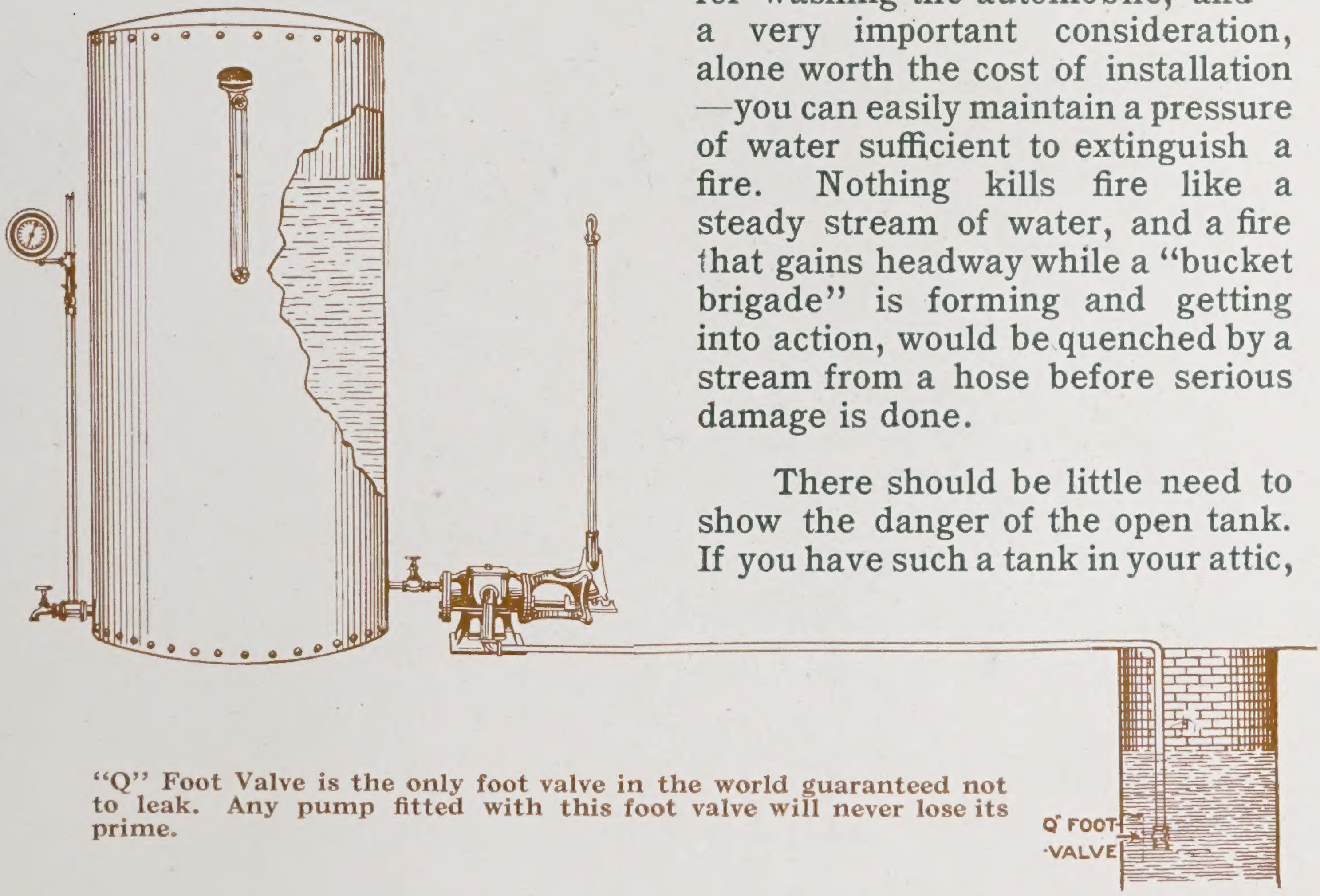
Where electricity is available—and the Power Companies are constantly extending their activities—an electric pump is, of course, the most convenient arrangement, because it will require absolutely no attention from one end of the year to the other, except an occasional drop of oil.

It automatically stops and starts itself as the pressure in the tank rises or falls.

Where electricity is not available, a gasoline engine is an equally reliable power, and will operate the pump with a surprisingly small amount of fuel.

There is not a convenience enjoyed by those paying taxes for city water service, that cannot be had by the owner of a Peerless Water System. A bath with running water, hot and cold, running water in the kitchen, running water for washing the automobile, and—a very important consideration, alone worth the cost of installation—you can easily maintain a pressure of water sufficient to extinguish a fire. Nothing kills fire like a steady stream of water, and a fire that gains headway while a "bucket brigade" is forming and getting into action, would be quenched by a stream from a hose before serious damage is done.

There should be little need to show the danger of the open tank. If you have such a tank in your attic,



"Q" Foot Valve is the only foot valve in the world guaranteed not to leak. Any pump fitted with this foot valve will never lose its prime.

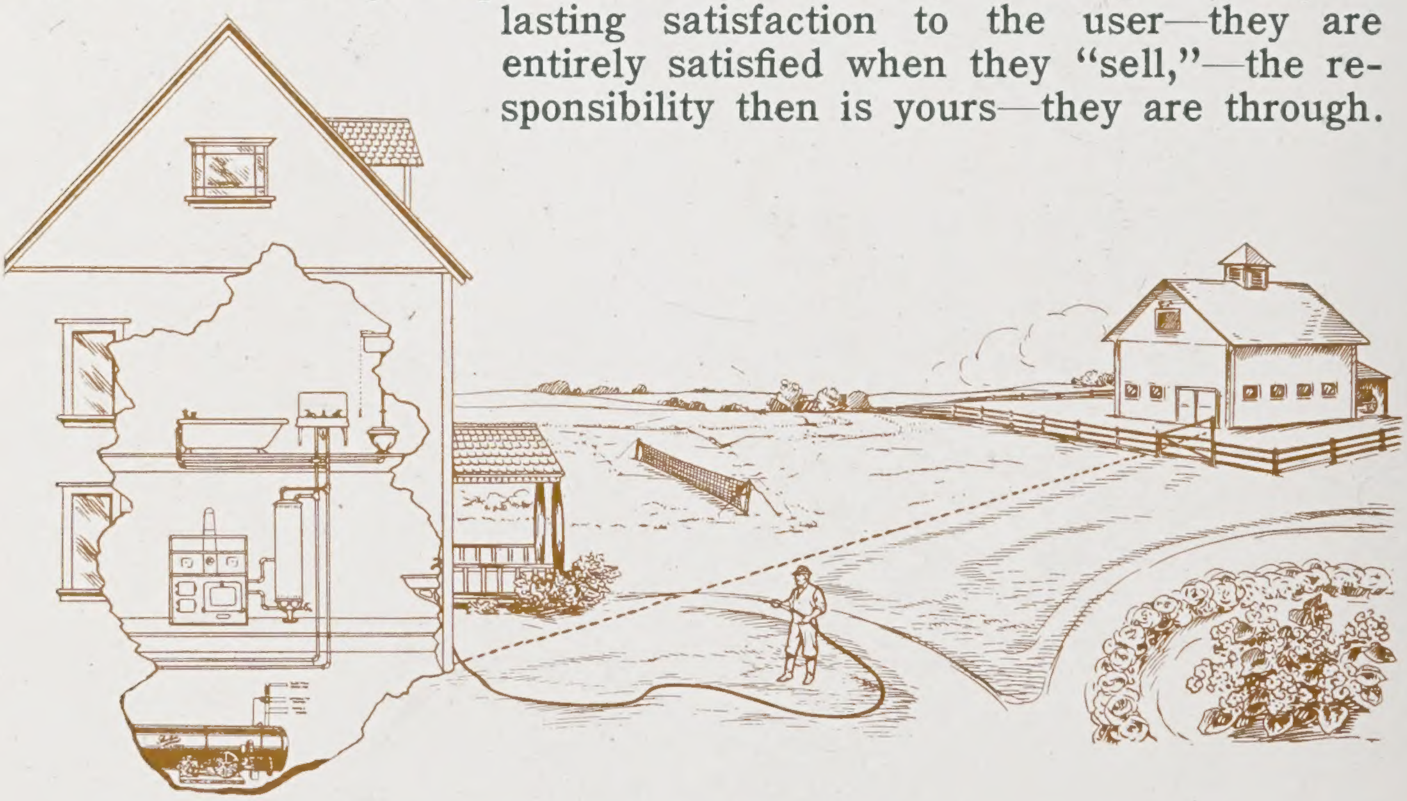
have you ever noticed a peculiar taste in the water, and wondered what it was? In all probability, it was a mouse, a bat, a sparrow or even a rat which had found a watery grave, and which, after a while, swells up, disintegrates and disappears, presenting in the meantime a most serious menace to the health of your household.

Every time an elevated water tank is emptied, air (usually heavily laden with dust and germs) is drawn in to take the place of water. When the tank is refilled this air is again discharged, but not before it has had time to deposit all of its impurities in the bottom of the tank; and a constant repetition of this operation ultimately builds up a slimy bacterial culture, sometimes five or six inches deep.

How different with the Peerless Water System!

The water comes direct from the source of supply and is at no time exposed to the open air until it is discharged from one of the taps. No dust, no dead bodies, no impurities whatever. The water is actually aerated by contact with the air under pressure. It comes to you as clear and sparkling and free from contamination as the water that is discharged from a Syphon Bottle.

As in every other sphere of commercial activity there are found those who are willing to sell a "Water System" who know little and care less about your particular requirements, or the probability of lasting satisfaction to the user—they are entirely satisfied when they "sell,"—the responsibility then is yours—they are through.

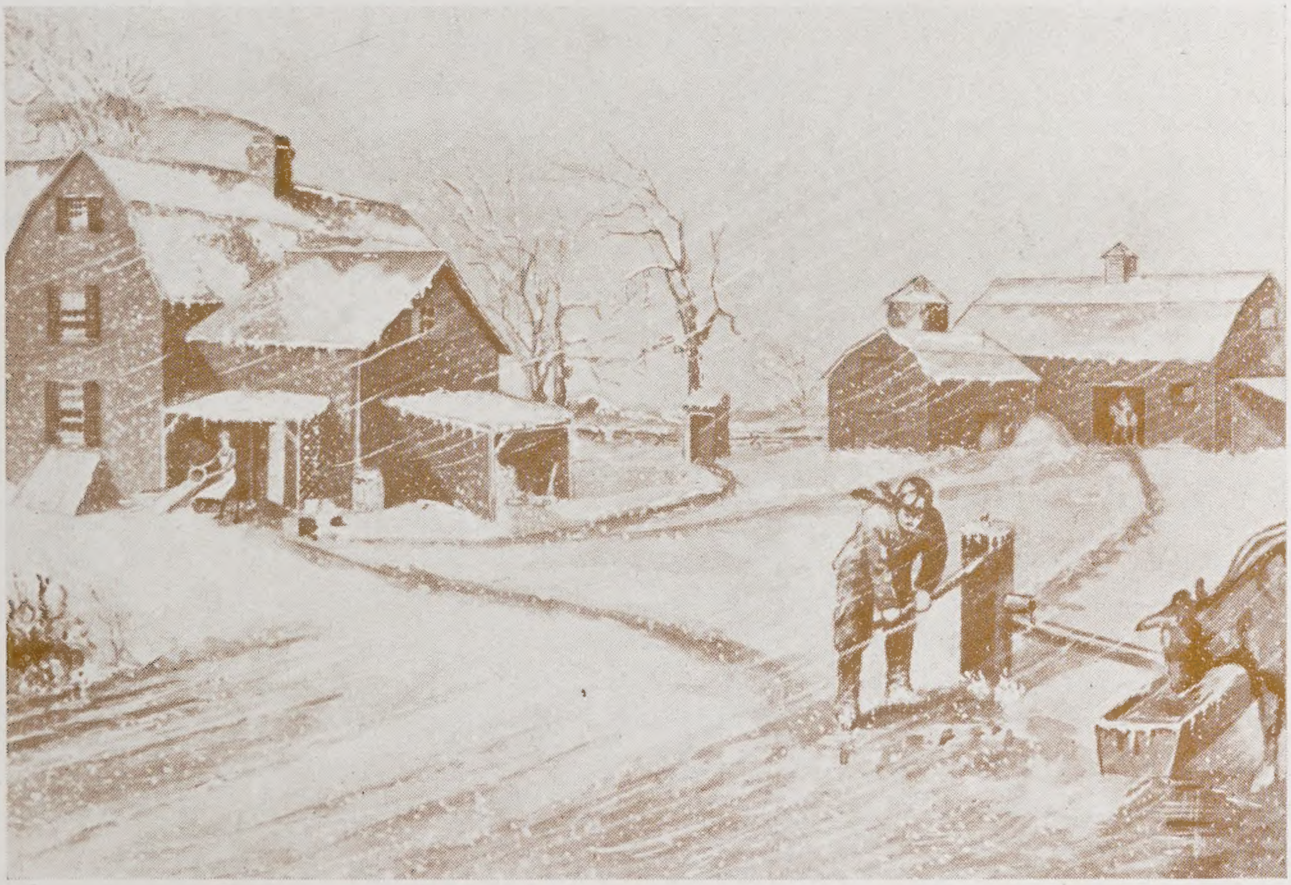


Thousands of farmers have paid once for a Peerless Water System, and will enjoy it the rest of their lives

It seems almost unnecessary, therefore, to dwell upon the importance of buying a System designed by competent engineers with a definite object in view, who know absolutely what is best to properly and economically perform any given service, and who, being specialists in the line, have a reputation to maintain, and it will be clear to the thoughtful reader that a "System" can hardly be expected to be well balanced that consists of a tank picked up at one shop, a pump at another, and a motor, gauges, automatic controller, brass fittings, etc., etc., at a dozen other places and assembled by some shipping clerk who only knows what the parts are because the name is stamped on them.

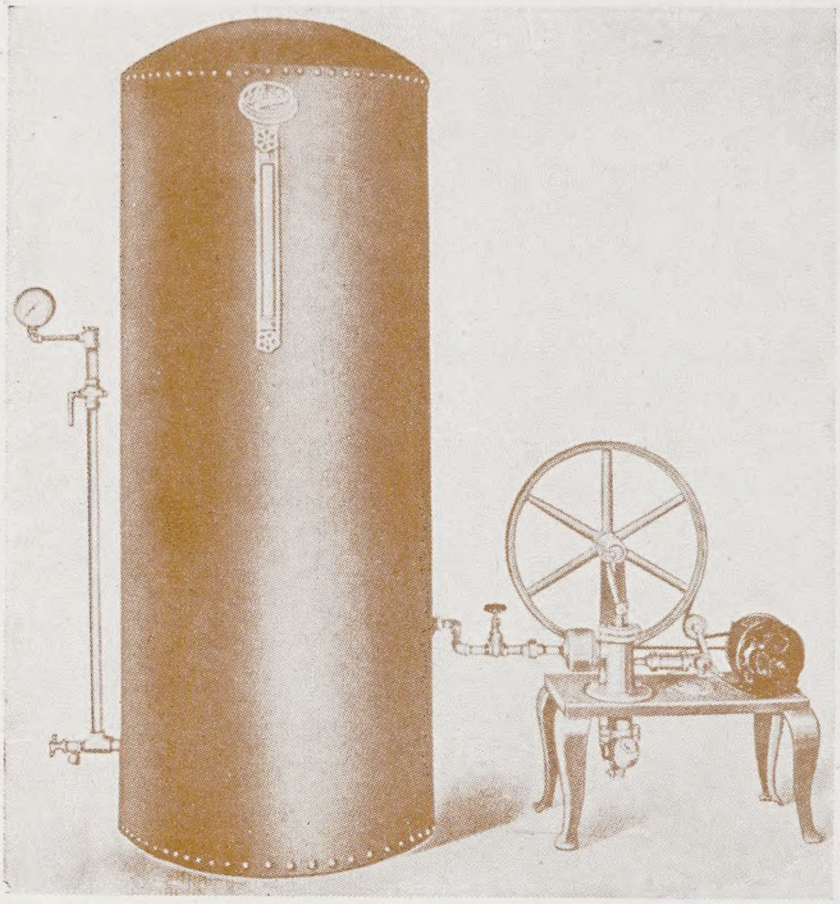
In other words, if there is not correct co-relation between the source of supply and the pump; the power and type of the motor and the pump; and the storage capacity of the tank to both, you will fail to obtain the results you have a right to expect.

And keep this point in mind, that reputable manufacturers in any line never try to sell unnecessary equipment simply for the purpose of getting more money—competition alone would prevent that



—Others still pay every year, in useless toil and failure to obtain maximum results from their stock, for a System that they have not got.

1000 gallons of water by man power	$1.00
1000 gallons of water by Peerless power	.05
Loss	.95



The No. 300 Series Peerless Electric Unit has 50% greater pump capacity than its nearest foreign competitor, in price. The simplicity of its construction making a strong appeal to those having little mechanical knowledge. It is absolutely automatic and trouble proof in operation.

Heavy riveted plate tank, ball bearing pump.
Canadian Made.

—and when we say that for a given service a pump of a certain displacement or a tank of a given capacity is necessary for your satisfaction and comfort, you may be certain that our advice is based upon experience, and you owe it to yourself to very carefully investigate the claims of anyone who will promise to do as satisfactory work with a much smaller equipment.

And remember that for any equal service "Peerless" Systems will be found from 15% to 30% cheaper than any "Assembled" System and, in addition, you have the unqualified guarantee of Canadian Water System manufacturers behind them.

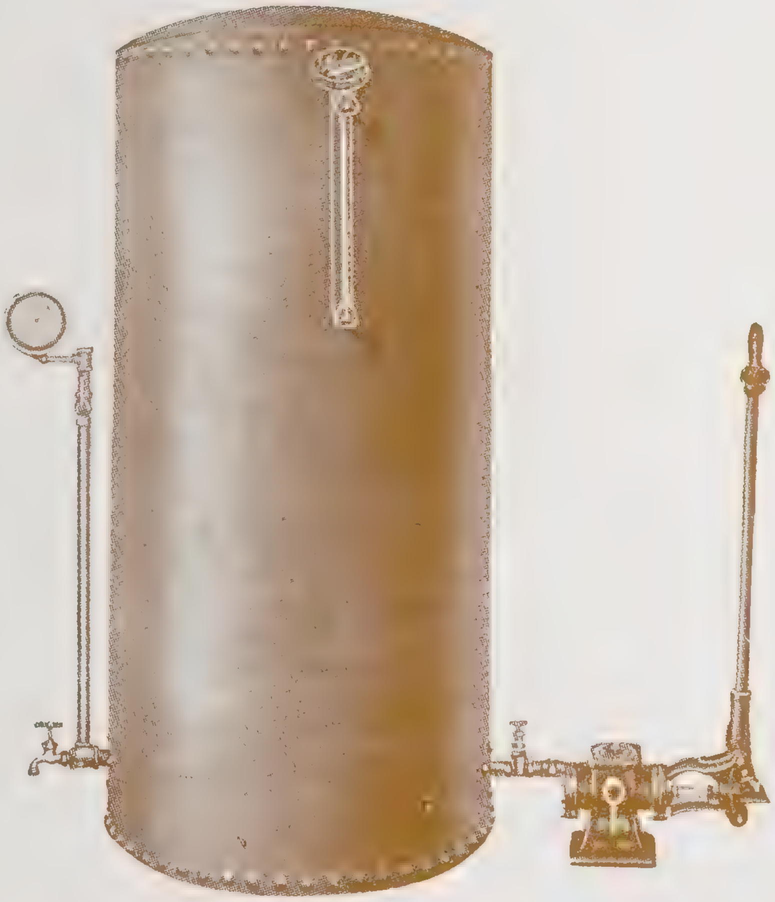
Our first act in this booklet was to sound a warning to prospective purchasers of water pumping equipment, and naturally we will be expected to advance some reasons for this course.

Dealing with them in the order indicated, we would point out that, in an effort to cut down prices, or to make more profit, or both, many foreign manufacturers offer to the public tanks which, in the first place, are invariably too small to give satisfactory service, and in the second place are 50% too light for lasting satisfaction.

You will find by reference to shipping weights in catalogues issued by such makers, that, size for size, the weights of their tanks are not more than one-half of those recognized in engineering circles as being necessary. For example, our 24 inch by six foot tank, capacity 140 gallons, weighs approximately 400 lbs., is made of best quality tank plate closely rivetted and caulked, metal to metal, and will last almost indefinitely, whereas you will find included with a great many imported units tanks of the same capacity that weigh under 200 lbs., and this proportion will apply to all capacities up to the point where such construction is absolutely impossible.

It will be natural for you to ask yourself the question, why, if riveting and caulking is the only safe method on large tanks, it should not be the best method on those of small capacities, which have to stand the same pressure per square inch. But the fact is that the light weight material cannot be caulked successfully, and hence the tightness of the joints must depend upon either welding or galvanizing or both. In this connection we would say that we have added to our line what is known as the "Bungalo" System, which is suitable for supplying drinking water in schools, soft water in city houses, or for the very limited requirements of a summer house or small cottage, in which the tank is of light material, but of very small capacity. But it must not be confused with our standard lines intended to meet any conditions imposed upon them. Do not be misled. Remember that a ball cock in a closet tank will draw water at the rate of not less than four or five hundred gallons an hour, and a sink tap when wide open would pass it, under reasonable pressure, at the rate of perhaps one thousand gallons per hour.

Except in most extraordinary cases the pump will have an hourly capacity of but a fraction of this amount, and unless you



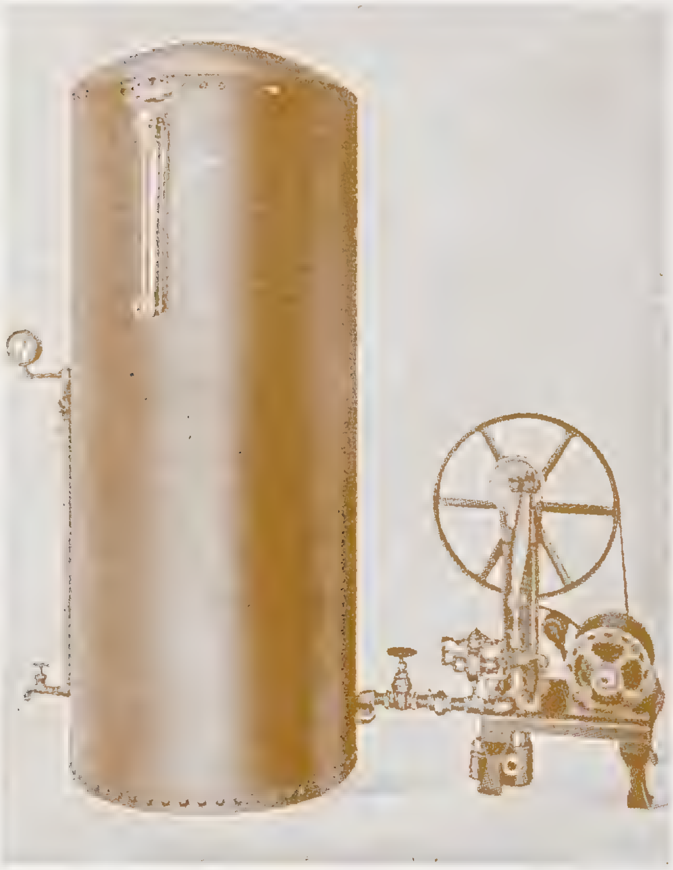
The No. 112 Series Peerless Water System includes the most perfectly machined and easily operated pressure pump made. The various sizes of tanks furnished will provide an adequate domestic supply of water for from three to a dozen persons.

Heavy riveted plate tank, patented pump.
Canadian Made.

have a reasonable volume of water in storage, there will be an immediate and serious drop in pressure the moment water is drawn.

You will naturally expect to buy a Water System but once in your lifetime, and if the tank capacity is insufficient you will regret it but once, and that will be as long as you use the equipment.

As in the case of tanks you will also be offered pumps made upon a variety of principles, chiefly those known as Plunger, Centrifugal and Rotary.



The No. 500 Series Peerless System will provide a first class continuous hose service in addition to the ordinary domestic requirements. For quietness, simplicity, efficiency, quality of materials, and durability we challenge the world.

Heavy riveted plate tank, patented pump
Canadian Made.

The first named principle is that which applies to all of our pumps. The piston is packed with cup leathers easily renewable should wear take place, and this leather packing fulfils a twofold purpose, namely, first while it makes a tight plunger, it will at the same time take practically all of the wear, so that the balance of the pump will not easily be destroyed by sand or other foreign matter, and secondly, when wear does occur, (and this ordinarily need not be anticipated for several years) a new piston leather may be applied by anybody, at a cost of a few cents.

It has been demonstrated by all large engineering firms in this line, universities, schools of technology, etc., that a properly constructed plunger pump is the surest and most efficient machine built for the purpose of moving fluids, hence we confine our operations to that type.

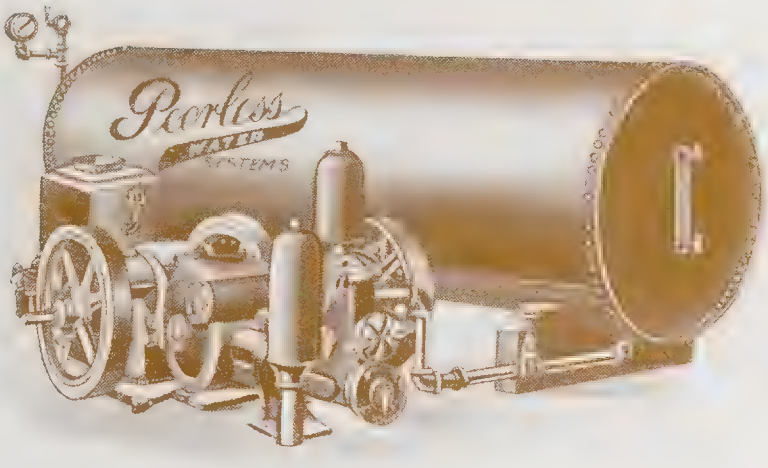
The centrifugal pump, which consists of a small impeller within a hollow casing, is made in various types, and, for many of them, most exaggerated claims are made.

Theoretically, the impeller, turning at a high velocity, is supposed to "throw" the water out from its vanes by centrifugal force, and while this type of pump has certain advantages, in the handling of dirty or very heavy fluids, or where large volumes are required to be moved against little or no head, they are admitted by all authorities to be extremely inefficient, particularly in respect to the amount of energy consumed in relation to the amount of work performed, and, in addition, they suffer under the great disadvantage of being unable, under any circumstances, to prime themselves should the contents of the suction line leak out, or should there be the slightest leak on the suction side.

A comparison of the size of motor required with any pump of the centrifugal type to deliver a given amount of water against a certain maximum head, as for example, 40 or 50 lbs., will show that at least 100% more power is required than is the case with any well made plunger type of pump of similar capacity.

Rotary pumps in addition to being inefficient have another very distinct disadvantage, namely, that the slightest amount of wear will render them useless for pressure work, and repairs, when such are possible, are usually so expensive as to render the scrapping of the pump the wiser course, and, in addition, rotary pumps are invariably noisy; that this condition is recognized, is proven by the fact, that, in most cases, the connection between the pump and the house system is made with a piece of hose so that the "telephoning" of the roar of the gears through the house piping system will be reduced as much as possible.

Occasionally we hear of what are known as Air Lift Systems being offered. These require for their operation storage of a large quantity of air, usually under exceedingly high pressure, in the basement of the building, which involves the installation of an air compressor with tank and motor.



The No. 125 Series Peerless System operated by gasoline engine, in tank, pump and engine capacities suitable for the smallest residence or the largest school, hotel or public institution. Pumps range from 350 to 4,000 gallons per hour, and tanks from 140 gallons to 20,000 gallons capacity.

Oil submerged quiet gears, engine, simplicity itself, heavy riveted plate tank in all capacities.

Canadian Made.

Everyone familiar with such apparatus knows that no such thing as a silent or even quiet air compressor exists, and in the case of a house installation where quietness is so essential, they usually become a fearful nuisance.

In addition to this a multiplicity of pipes between the house and well or cistern is required, and at the base of these pipes is fitted a multiple discharging apparatus, which in construction is complicated and involved, and when repairs are required the whole apparatus located at the source of supply must be removed.

The No. 600 Series Peerless System is made in an infinite variety of pump and tank capacities and combinations. Pumps ranging from 350 gallons to 4,000 gallons per hour, and tanks from 140 gallons to 20,000 gallons capacity. Suitable for residences, schools, hotels, large public institutions, villages, etc. Pumps have oil submerged quiet gears, heavy riveted tanks of all capacities. Canadian made.

Regarding this type of apparatus, we will confine ourselves to suggesting that before placing an order for any of it you take the trouble to visit and inspect one that has been in use for, say, a year. We are satisfied that the information obtained in this way will justify the effort made.

From time to time we hear of what are known as "Tankless" Systems, of which a number of different types are offered, which in effect are simply a pump and motor with an automatic switch, intended to deliver water directly to the taps instead of through the medium of a storage tank.

Just remember that any standard pump and motor without a tank is a "Tankless" System, and that every argument for reasonably large tankage capacity will apply.

Apart from the comparatively large motors usually required on such plants, and the defects that are inherent in pumps other than those of the plunger type, they will start at any time during the day or night that the pressure is reduced in the house piping by reason of even a minute leak at the tap, closet tank, packing gland, foot valve, etc., and they are absolutely useless the moment the power is off.

Small Cottage, having complete bathroom, kitchen sink and laundry tubs, supplied with water, under pressure, from a hand operated Peerless water system.

When "the power is off" you can light a candle or a lamp, and, while it may be inconvenient, you can do without the toaster or electric iron, but it is ***mighty embarrassing at times*** to be without water, and there is no way of getting it to the fixtures except through the piping connection with your Water System; but, if at the other end of the pipe you have a ***Peerless*** tank with plenty of water under pressure, you need have no fear of being without water when "the power is off," whether the period be for a few minutes, or even a few days.

When buying a Water System insist upon an opportunity of consulting a number of owners of the type of equipment offered, and be assured that your security lies in dealing with manufacturers of long experience, who, knowing definitely what results may reasonably be expected from any class of equipment, have the best of reasons for insisting upon certain qualities in the various units that make up a Water System, including motors, pumps, tanks, engines, electric controllers, etc., that always cost them considerably more than the light weight "Competition" systems, which so frequently show signs of weakness after only a few weeks' use.

Investigate, demand proof, compare, you will buy a ***Peerless Water System made in Canada.***

De La Salle Training College, Oak Ridges, Ont. (Hynes, Feldman and Watson, Architects, Toronto.) Having 10,000 gallons of tankage. Electric pumping capacity 100 gallons per minute, if required. Pressure up to 80 lbs.; (35 lbs. gives them a good service). Water everywhere for plumbing fixtures, shower-baths, boiler feeding, lawn watering, fire protection, etc. No unsightly outside tower tank to mar the appearance of the whole landscape.

The First Peerless System

Ridgeway, Ont., June 1st, 1920.

National Equipment Co., Ltd., Toronto.
Dear Sirs:—

You may remember I purchased from you in 1909—just eleven years ago—a Peerless Automatic Water System, and I am glad to be able to say that during the years that have passed I have enjoyed the most perfect satisfaction.

We notice, however, that while we used to pump only every two or three weeks we now have to pump a little more frequently. Can you suggest a cause for this?

The equipment looks and works as well as it did the first day and has cost us nothing for repairs.

Yours very truly,
JOHN McLEOD, Sr.

A Few Others

Toronto, Ont., July 25th, 1920.

National Equipment Co., Ltd., Toronto.
Dear Sirs:—

Will you please be good enough to ship to Sir John Eaton at King, Ont., and charge to our account, two 600 G. Electric Pumping Systems with auxiliary gasoline driven Pumps, which were specified during our conference yesterday.

It may interest you to know that this is the third of your systems that we have installed for the same client, and we are glad to be able to add that our total purchasers of more than $70,000 worth of Peerless Water Systems have given us the very highest degree of satisfaction.

Yours very truly,
THE BENNETT & WRIGHT CO., LTD.
George Clapperton,
Vice-President.

INFORMATION BLANK

In order that we may be in a position to specify a plant exactly suited to your requirements we request that you furnish us with the answers to the following questions. No charge is made for specifications and estimates.

1. For what service is the water required—House, Barns, etc.?
   If for Cattle, how many?
2. How many persons will use the Service?
3. Are hydrants on lawn, garden or outside points to be supplied? If so, how many?
4. How high above the Tank will the highest plumbing fixture be?
5. About how many gallons will be required per day?
6. What is the source of the water supply—Well, Cistern, Lake, Stream, etc.?
   (a) If a Well, what is its depth and diameter?
   (b) What is the distance from surface of ground to water at low-water mark?
   (c) Does the water fall rapidly when pumped continuously?
7. Is pumping to be done by hand, gasoline engine or electric motor?
   If electric motor give following information:—
   (a) Direct Current?..If so, what Voltage?
   (b) Alternating Current?................Cycles................Phase................Voltage............
   NOTE.—It is best to consult local Lighting or Power Company concerning the kind of current available.
8. If a tank is to go in basement, give dimensions of smallest opening through which it must pass..
9. If you require both hard and soft water services, please give full information regarding the source of supply in each case.

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10. Give full information regarding any pumping machinery that you have and may wish to use, and we will advise you whether it can be used in connection with a pneumatic outfit or not.

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This is NOT an order, and signing it does not entail any liability to purchase. This information allows intelligent advice to be given.

Name..

Address..

Date...

NOTE.—We are always greatly assisted by a rough sketch (which may be made with a pencil on the back of this paper) showing relative positions of source of water supply, and pumping machinery, marking in the distances vertically and horizontally.